

REMARKS

Claims 4-7, 9-64, and 68-72 have been canceled herein. Such cancellation is without prejudice to further prosecution of these claims in the present application or in one or more continuing applications. Applicants explicitly reserve their right to re-introduce method claims of suitable scope upon the indication of an allowable generic claim to a composition of matter, pursuant to the Office's policy regarding linking claims and *In re Brouwer*, 37 USPQ2d 1663 (Fed. Cir. 1996) and *In re Ochiai*, 37 USPQ2d 1127 (Fed. Cir. 1995)..

Claims 1, 8, and 65-67 have been amended herein.

Claims 1-3, 8, and 65-67 remain in the case. Favorable reconsideration is respectfully requested.

Please note that the correspondence address for this matter has changed. A Revocation of Power of Attorney, combined with a new Power of Attorney is submitted herewith. Please forward all future correspondence to the Intellectual Property Department, DeWitt Ross & Stevens, S.C., 8000 Excelsior Drive, Suite 401, Madison, WI 53717-1914.

The following remarks address the issues presented in the Office Action dated January 28, 2004 in the order of their appearance.

Sequence Listing:

A substitute sequence list, in both paper copy and computer-readable format, is submitted herewith, along with the required statement regarding the identity of the paper and CFR versions. Applicants request entry of the substitute sequence list in place of the present list. The substitute sequence list addresses the discrepancy noted by the Examiner.

Rejection of Claims 1-4, 6-9, and 64-68 Under 35 USC §101:

This rejection is believed to have been overcome by appropriate amendment to the claims. Specifically, Claim 1 has been amended to recite that the claimed complex

is "disposed within an isolated, *in vitro* sample to be tested." This wording finds support throughout the specification, especially in the Examples. Because an isolated, *in vitro* sample is, by definition, non-natural, this amendment is believed to overcome the rejection under §101. Note that the McGraw-Hill Dictionary of Scientific and Technical Terms (5th edition, p. 1047) defines *in vitro* as "pertaining to a biological reaction taking place in an artificial apparatus." Thus, the claims as amended **do not** encompass within their scope complexes that may occur within the natural, *in vivo*, environment. Withdrawal of this rejection is respectfully requested.

Rejection of Claim 65 Under 35 USC §112, Second Paragraph:

This rejection has been overcome by appropriate amendment to Claim 65. Specifically, Claim 65 has been amended to withdraw the final clause regarding sequences capable of binding to SEQ. ID. NO: 8. Withdrawal of the rejection is respectfully requested.

Rejection of Claim 65 Under 35 USC §112, First Paragraph (Enablement):

This rejection has been overcome by appropriate amendment to Claim 65. See the immediately preceding section. Withdrawal of the rejection is respectfully requested.

Rejection of Claims 1-4, 6-9, and 64-47 Under 35 USC §112, First Paragraph (Written Description) (¶ 12 of Office Action):

This rejection has been overcome by appropriate amendment to the claims. Specifically, the phrase "fragments, homologs, and variants thereof" has been removed from the claims. Withdrawal of this rejection is respectfully requested.

Rejection of Claims 1-4, 6-9, and 64-47 Under 35 USC §112, First Paragraph (Enablement) (§ 13 of the Office Action):

This rejection has been overcome by appropriate amendment to the claims. Specifically, the phrase "fragments, homologs, and variants thereof" has been removed from the claims. Withdrawal of this rejection is respectfully requested.

Rejection of Claims 1-4 and 7 Under 35 USC §102(b) in View of Pommer et al.:

This rejection is believed to have been overcome by appropriate amendment to Claim 1. Specifically, the Pommer et al. reference is limited entirely to a discussion of colicin E9, a bacteriocin that is not within the scope of Claim 1 as amended.

Moreover, note that the Pommer et al. reference in no way suggests the presently claimed invention because Pommer et al. conclude that transition metals are not essential for the biological activity of colicins, and in fact may even inhibit the biological activity of the colicins. See Pommer et al., page 27115, right-hand column, lines 17-28. Thus, Pommer clearly indicate that there is little value in a transition metal complex of a bacteriocin (as is currently claimed) because the transitional metal will have an adverse effect on the biological activity of the bacteriocin (in Pommer's case, the colicins)..

Applicants therefore submit that the rejection of Claims 1-4 and 7 under 35 USC §102(b) in view of Pommer et al. has been overcome. Withdrawal of this rejection is respectfully requested.

Rejection of Claims 1-4, 6, 8, and 64-67 Under 35 USC §102(b) in View of Surovoy et al.:

The rejection is believed to have been overcome by appropriate amendment to the claims. Specifically, the Surovoy reference is limited entirely to a discussion of prenisin protein complexes of zinc. As amended, Claim 1 explicitly requires cobalt as the complexed metal. In short, the zinc complex discussed in the Surovoy et al. reference does not fall within the scope of Claim 1 as amended.

In light of the amendment to Claim 1, and the cancellation of Claims 4, and 64, Applicants submit that the rejection of Claims 1-4, 6, 8, and 64-67 under 35 USC §102(b) in view of Surovoy et al. has been overcome. Withdrawal of this rejection is therefore respectfully requested.

Rejection of Claims 1-4, 7-9, and 64 Under 35 USC §103(a) Over Siddigi et al, in View of Olstein et al, and Timmer et al.:

The rejection is believed to have been overcome by appropriate amendment to the claims. Specifically, the subject matter of Claim 6 has been incorporated into Claim 1. Claim 6 (now canceled) was not made subject to this rejection. Therefore, by inserting the subject matter of Claim 6 into Claim 1, Claim 1 as amended is likewise not subject to this rejection. Withdrawal of this rejection is respectfully requested.

Rejection of Claims 66 and 67 Under 35 USC §103(a) Over Siddigi et al, in View of Olstein et al, Meyer, Friedman, and Gasson et al.:

The rejection is believed to have been overcome by appropriate amendment to the claims. Specifically, the subject matter of Claim 6 has been incorporated into Claim 1. As noted in the immediately preceding section, Claim 6 (now canceled) was not made subject to this rejection. By inserting the subject matter of Claim 6 into Claim 1, Claim 1 as amended is likewise not subject to this rejection. Withdrawal of this rejection is therefore respectfully requested.

Rejection of Claims 1-4, 6-9, and 64-67 Under 35 USC §103(a) Over Siddigi et al, in View of Olstein et al, Meyer, Friedman, and Buchman et al.:

This rejection is respectfully traversed because there is no motivation provided by the applied reference to combine their teaching in the first instance. The only motivation to combine these references is provided by Applicants' own specification and claims. The Office, however, cannot use the Applicants' own specification to provide the motivation that is lacking in the applied references themselves. Applicants

therefore submit that the Office has failed to establish a *prima facie* case of obviousness with respect to these claims.

Even a cursory examination of the titles of these papers shows that they are from vastly different technological fields. The Siddigi et al. patent is at least nominally relevant to the present claims. Siddigi et al. describe an analytical method that uses an electrochemically luminescent transition metal label. That being said, the Siddigi et al. patent does not even mention the word "bacteriocin" or a synonym for bacteriocin. In short, the primary reference cited in support of this rejection fails entirely to mention one element of the two-element complex currently claimed. The Siddigi et al. reference is completely and wholly silent with regard to bacteriocins.

Likewise, the Olstein et al. reference does not disclose or suggest any of the bacteriocins that are positively recited in Claim 1 as amended.

The Friedman paper is a straightforward review article that touches upon many aspects of lysinoalanine, lanthionine, and histidinoaladine. The Office asserts that the Friedman paper teaches that nisin has a high affinity for metals such as cobalt. See the pending Office Action at the top of page 16. A close review of the Friedman et al. paper, however, fails to show where this conclusion is supported by the reference itself. The Friedman et al. paper contains a brief discussion of the affinity of lysinoalanine (LAL) for certain metals (at page 1312), but has no discussion at all regarding nisin or the affinity of nisin (or any of the other bacteriocins listed in Claim 1) for transition metals in general or cobalt in particular. Nisin, for one, does not contain an Lys-Ala sequence. And Claim 1, as amended, does not recite cinnamycin or duramycin.

The Buchman reference presents nothing more than a description of the cloning of nisin.

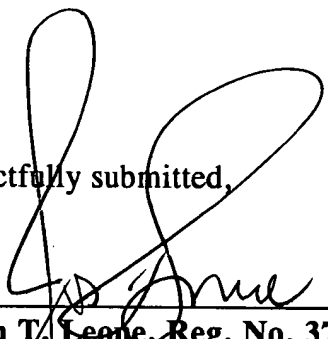
Due to the distinct differences of the fields of endeavors described in the application references, there is no motivation provided by the references themselves to support their being combined. The only motivation to do so is provided by Applicants' own specification. But Applicants' specification cannot be used by the

Office to provide the motivation or suggestion that is lacking in the applied references themselves. Applicants therefore submit that this rejection is improper on its face.

Even if the combination is made, the combined references still fail to render obvious the present claims because the combined references do not suggest that the bacteriocins recited in claim 1 will complex with cobalt. Siddigi et al. reference is completely and wholly silent with regard to bacteriocins. The Olstein et al. reference also does not disclose or suggest any of the bacteriocins that are positively recited in Claim 1 as amended. Friedman suggest that only those compound containing Lys-Ala will be strongly attracted to cobalt. And Buchman discloses only the cloned nisin gene, a protein that does not contain the Lys-Ala motif discussed by Friedman. Thus, the combination does not suggest the present invention because the nisin described by Buchman does contain the Lys-Ala noted by Friedman.

Applicants therefore submit that the rejection of Claims 1-4, 6-9, and 64-67 under 35 USC §103(a) over Siddigi et al, in view of Olstein et al, Meyer, Friedman, and Buchman et al. is improper. Withdrawal of the same is now requested.

Respectfully submitted,



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